

WHAT IS CLAIMED IS

1. An apparatus comprising:
an electrical machine including at least one of a rotor and a stator, at least one of said rotor and stator including a multiturn winding of plural paralleled electrical conductors;
a current sensing apparatus, said current sensing apparatus including a first path through which a current to be sensed passes, said current sensing apparatus being capable of producing a sensed signal in response to the current in said first electrical path, up to a predetermined maximum value of said current in said first path, above which current said sensed signal is limited; and
interconnection means coupled to said multiturn winding of plural paralleled electrical conductors of said one of said rotor and stator and to said first path of said current sensing apparatus, for causing the current of a selected number, less than the total number, of said plural paralleled electrical conductors to pass through said first path.
2. An apparatus according to claim 1, wherein said interconnection means comprises extending turns of said selected number of plural paralleled electrical conductors through said first path.
3. An apparatus according to claim 1, wherein said selected number is one.
4. A device according to claim 1, wherein said current sensing apparatus is non-contacting as between said

first current sensing path and that port at which said sensed signal is generated.

5. A device according to claim 1, wherein said machine is a motor.

6. A device according to claim 1, wherein said current sensing apparatus is capable of producing a linear sensed signal in response to the current in said first electrical path.

7. A vehicle powered at least in part by an electric motor, said vehicle comprising:

a rotational vehicle drive device;

5 a motor coupled to said rotational vehicle drive device, for driving said vehicle when said electric motor drives said rotational vehicle drive device, said electric motor including at least one of a rotor and a stator, which one of said rotor and stator includes a first winding of a plurality of mutually paralleled conductors;

10 a source of electrical energy;

an electrical power path extending between said source of electrical energy and said motor, said electrical power path including a controllable electrical power control arrangement, for controllably coupling electrical energy
15 between said source of electrical energy and said motor;

a control circuit coupled to said controllable electrical power control arrangement, for responding to at least operator control signals and motor current signals, for controlling said electrical motor for driving said
20 vehicle under operator control;

a current sensing apparatus associated with a

selected number of said conductors of said first winding which is less than the total number of conductors in said first winding, for sensing at least one component of motor
25 current, said current sensing apparatus having a maximum current for which a sensed signal is generated which is greater than the maximum current in said selected number of conductors but less than the maximum current in said first winding.

8. A vehicle according to claim 7, wherein said current sensing apparatus is a non-contacting current sensing apparatus.

9. A vehicle according to claim 7, wherein said current sensing apparatus has a maximum current for which a linear sensed signal is generated which is greater than the maximum current in said selected number of conductors but less than the maximum current in said first winding.

10. A method for generating a signal representative of current in a magnetic winding of an electromechanical machine, said method comprising the steps of:

procuring a current sensor which produces a current-representative signal up to a predetermined maximum current, which current-representative signal may be linearly related to the current;

winding said magnetic winding with turns of a plurality of mutually paralleled electrical conductors;

coupling to said current sensor only so many of said plurality of mutually paralleled electrical conductors as will carry a current no greater than said predetermined

maximum current at the full rated current of said magnetic winding.